

Association for Information Systems

AIS Electronic Library (AISeL)

ACIS 2013 Proceedings

Australasian (ACIS)

2013

The Use of Social Media to Gather Qualitative Data: A Case of Government E-Procurement Implementation and Use

Nurdin Nurdin

Swinburne University of Technology, nnurdin@groupwise.swin.edu.au

Rosemary Stockdale

Swinburne University of Technology, rstockdale@swin.edu.au

Helana Scheepers

Swinburne University of Technology, hscheepers@swin.edu.au

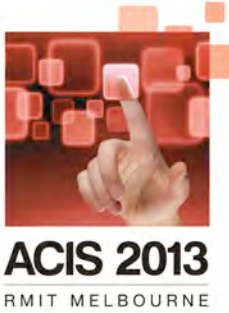
Follow this and additional works at: <https://aisel.aisnet.org/acis2013>

Recommended Citation

Nurdin, Nurdin; Stockdale, Rosemary; and Scheepers, Helana, "The Use of Social Media to Gather Qualitative Data: A Case of Government E-Procurement Implementation and Use" (2013). *ACIS 2013 Proceedings*. 97.

<https://aisel.aisnet.org/acis2013/97>

This material is brought to you by the Australasian (ACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ACIS 2013 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.



Information Systems: Transforming the Future

**24th Australasian Conference on Information
Systems, 4-6 December 2013, Melbourne**

Proudly sponsored by



The Use of Social Media to Gather Qualitative Data: A Case of Government E-Procurement Implementation and Use

Nurdin Nurdin

Faculty of ICT, Swinburne University of Technology

VIC, Australia, nnurdin@swin.edu.au;

IAIN Datokarama Palu and STMIK Bina Mulia Palu, Indonesia,

nnurdin@stain-palu.ac.id

Rosemary Stockdale

Faculty of ICT, Swinburne University of Technology

VIC, Australia, rstockdale@swin.edu.au

Helana Scheepers

Faculty of ICT, Swinburne University of Technology

VIC, Australia, hscheepers@swin.edu.au

The emergence of social media is enabling researchers to consider new data collection and triangulation strategies. Quantitative researchers have taken advantage of the emergence of the Internet as a medium to gather data. Meanwhile, interpretive researchers are only now being able to harness the potential that social media provide in generating more insight into collected data. Using a case of government e-procurement implementation and use in an Indonesian regency, we illustrate how social media exchange, postings, and conversations can be used as a source of rich qualitative data to enhance understanding of a topic being studied. Our findings show that monitoring social media exchange, postings, and conversation can strengthen our understanding and interpretation of offline data (such as interviews). This study contributes to literature on the use of online media for interpretive data collection.

Key words: social media, qualitative data, interpretive research, e-procurement, Indonesia

INTRODUCTION

Interpretive researchers have mainly focused on gathering data through conventional methods such as interviews (DiCicco-Bloom, 2006; Frey & Fontana, 1991; Myers & Newman, 2007), focus groups (Morgan, 1997; Parent, Gallupe, Salisbury, & Handelman, 2000), and ethnographic studies (Crabtree, Nichols, O'Brien, Rouncefield, & Twidale, 2000; LeCompte & Schensul, 1999). More conventional methods of qualitative data collection can now take advantage of the emergence of newer technologies such as social media.

The emergence of the Internet encouraged researchers to extend their data gathering to the online space (Cantrell & Lupinacci, 2007; Lefever, Dal, & Matthíasdóttir, 2007; Wood, Griffiths, & Eatough, 2004), for example, through web surveys (Lefever et al., 2007; Wright, 2005) and emails (Campbell, Maglio, Cozzi, & Dom, 2003; McCoyd & Kerson, 2006; Sproull, 1986). This environment has allowed researchers to have a greater ability to access a larger population (Sade-Beck & Beer-Sheva, 2004). The population can include participants who are challenging to study (Cantrell & Lupinacci, 2007) such as small numbers of participants or a geographically dispersed sample. Kane & Fichman (2009) strongly urge researchers to reconsider core research practices that were developed for paper based exchanges in response to new technologies.

Social media are the latest technologies that can potentially provide huge opportunity to gain insights into what participants exchange, distribute, and communicate. Quantitative research studies (e.g: Bonsón, Torres, Royo, & Flores, 2012; Hong & Nadler, 2012; Strano, 2008; Thelwall, 2008) have taken advantage of the new technologies as a medium to gather data such as online surveys. Meanwhile a few qualitative researchers have utilized social media as an instrument for qualitative data gathering, in particular to support offline data (e.g. offline formal interviews) to enhance our understanding on a topic being studied (e.g: Sutton, Palen, & Shklovski, 2008; Wood et al., 2004).

Using our experience from a case study of government e-procurement implementation and use within a regency in Indonesia, we show how monitoring social media users' posting, comments, and conversation can be used to complement conventional data collection (interviews) to strengthen our understanding of a topic being studied. We believe that gathering online and offline data together can enrich qualitative material (Sade-Beck & Beer-Sheva, 2004) to enhance our understanding of a topic. This study provides insights on how social media (Facebook and Blogs) can be used to gather qualitative data to support data gathered in a more conventional manner. In this study we will address the following research question: ***How can monitoring the postings of social media users be used to enhance our understanding of a topic being studied in an interpretive research study?***

The structure of this paper is as follows; the next section presents theoretical constructs of social media in an interpretive research study and is followed by an overview of government e-procurement. The research methodology is presented in the next section along with the case context description. Findings of this research are then presented, followed by the discussion and conclusions. Limitations and future research are discussed in the final section.

SOCIAL MEDIA FOR QUALITATIVE STUDY

The term social media has been used interchangeable with the term Web 2.0 and social networking (Stockdale, Ahmed, & Scheepers, 2011). The definition of social media proposed by Kaplan and Heinlein (2010) reflects the interchangeable nature of this term who define social media as 'a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content' (p.61). This implies that social media is part of Web 2.0 technology that allow users to communicate, participate, contribute, share, make friends through activities such as discussion, feedback, and reply to enquiries.

Kaplan and Haenlein (2010) categorize social media into six types: collaborative activities (for example, [Wikipedia](#)), blogs and microblogs (for example, [Twitter](#)), content collection in the form of video sharing (for example, [Youtube](#)), online social networks (OSN) (for example, [Facebook and Twitter](#)), game worlds or games (for example, [World of Warcraft](#)), and social virtual worlds (for example, [Second Life](#)). However, O'Reilly (2007) categorizes Facebook, Twitter, and You Tube as social networks, while Mangold & Faulds (2009) categorise Blog, Facebook, and MySpace as social media. This paper takes a broad view of social media that includes the six types identified by Kaplan & Haenlein (2010).

Social media have been utilized for many purposes. For example, social media can be used to facilitate social relationships, and to increase self-esteem and life satisfaction (Ellison, Steinfield, & Lampe, 2007), to exchange questions and answers in a short timeframe among involved people (Agichtein, Castillo, Donato, Gionis, & Mishne, 2008), and for marketing and promotion tools (Smith & Zook, 2011). Within a government context, social media can be used as important instruments to control and monitor government employees behaviour (Bertot, Jaeger, & Grimes, 2010) as well as increase government openness and transparency in implementing a policy (Bonsón et al., 2012).

Social media users can be individuals or a group of users. As these individuals or groups use social media to facilitate relationships, exchange questions and answers, or keep track of government policies, researchers have opportunities to monitor and understand what and how the individual or groups are using the technologies (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). Monitoring is understood as an activity that can be performed on an object or a group of objects. Through the monitoring activities "the behaviour of the object or group can be defined and observed in term of status and events" (Mansouri-Samani & Sloman, 1993, p. 20). The monitoring can be practiced through understanding how social media users exchange, distribute, and receive content as well as how they communicate with each other (Kietzmann et al., 2011).

Gathering data from social media use allows researchers to obtain a rich source of data to analyse an otherwise elusive research subject (Greene, Choudhry, Kilabuk, & Shrank, 2010). Hookway (2008) suggests that researchers need to adjust their research approach to include social media technologies. Majchrzak (2009) even suggests that all Web 2.0 technologies research should lead to the establishment of new or adaptations of current IS theories.

Currently, limited examples of the use of social media to collect qualitative data have been published. Notable exceptions are, Sutton, Palen, & Shklovski (2008) in which data were gathered from Craigslist, Facebook and Flickr users to understand how citizens respond to information and cope with stress

during and after wildfire disaster. Hookway (2008) studied more than 200 posts and comments on a Blog in his qualitative study to understand the discussion about the nature of morality of everyday life. In the public sector, a number of studies have utilized social media as instruments to understand the implementation of government policies and to assess citizens' opinions. For example, Sobkowitz, Kaschesky, & Bouchard (2012) mined public opinion on social media to study the impact of implementations of government policies. Such opinion includes public arguments and sentiment toward variety government policies. Meanwhile, Bertot, et al., (2010) studied how social media improve government transparency through the involvement of the public in government policy implementations.

The use of social media in research provides an opportunity for researchers to understand both textual and graphical expressions by users as they make sense of their identity and relationships with others in a more natural context (Hookway, 2008). Such online observations also become a foundation of research integrity as they are carried out in more natural settings (Bianco & Carr-Chellman, 2000) than offline data which may include, for example, formal interviews. As the data are gathered from natural contexts, a researcher may obtain valid and trustworthy data. For example, personalized information found on individual user pages (Kane & Fichman, 2009) provides opportunities for researchers to obtain more trustworthy data because the user is not under pressure to respond to another party as in a formal interview setting.

GOVERNMENT E-PROCUREMENT IMPLEMENTATION AND USE

E-procurement is defined as “*the use of Internet-based (integrated) information and communication technologies (ICTs) to carry out individual or all stages of the procurement process including search, sourcing, negotiation, ordering, receipt, and post-purchase review*” (Kishor Vaidya & Callender, 2006, p. 72). In a government context, e-procurement is understood as “*a comprehensive process in which governments use IT systems to establish agreements for the acquisition of products or services (contracting) or to purchase products or services in exchange for payment (purchasing)*” (Moon, 2005, p. 54). Government e-procurement also involves activities such as online biddings, purchasing cards, reverse auction, and integrated automatic procurement systems.

The implementation and use of e-procurement within government organizations is influenced by internal and external government organizational contexts. Current problems, such as existing manual and semi-automated procurement processes, large volumes of paper-work, high levels of error, and slow transaction processes, have triggered government organizations to implement and use e-procurement (e.g: Hawking, Stein, Wyld, & Foster, 2004; McConnell, Doherty, & Ellis-Chadwick, 2010). Some government organizations also experience a lack of transparency in their goods and services procurement processes. This creates opportunities for employees and business to engage in corruption and collusion activities in government auctions. The corruption and collusion become a symptom of fundamental governance failure because governments may not be able to prioritize public interest in their services (Shah & Schacter, 2004).

Implementation and use of e-procurement by governments are also influenced by external institutional factors. Businesses are main actors that have interests in government auctions and they put pressure on government organizations to be transparent and fair in the procurement of goods and services. Some contractors may practice collusion with government employees to get benefits from the auctions. For example, a study in Bangladesh (Mahmood, 2010) shows that trade unions placed significant pressure on government procurement as the contractors negotiated with government employees to win a project. Meanwhile, other contractors were not well informed about the auction due to poor advertisement and non-disclosure of selection criteria. This is a common problem in government procurement processes (Mahmood, 2010).

By adopting and implementing e-procurement, a government organization is able to reduce undue pressures because e-procurement systems enable a wider range of interested contractors to take part in tenders through a transparent process (Cisar, 2003). Information and selection criteria are publicly available to all contractors in the system, which can reduce contractors' suspicion of government institutions. The tendering process can also be carried out with minimum direct contact between contractors and government employees to reduce negotiation between them.

CASE CONTEXT

This study was carried out in Luwu Utara regency in Indonesia. The regency started to implement and use e-government procurement in 2009 to improve transparency and efficiency in the procurement of goods and services in the regency. The regency experienced uncertainty in goods and services auctions, which was carried out with manual systems. Collusion and corruption were a major problem during offline/manual tendering processes. The collusion and corruption involved private companies' employees, non-government organizations (NGO) members, regency project leaders, high government leaders and families, employees, and family members of politicians.

Manual tendering was plagued by a lack of competitiveness and transparency in the auction process. This caused high dissatisfaction among local businesses, in particular amongst small contractors that experienced difficulties in winning government contracts. Most of the project auctions were obtained by certain big companies or companies that had a relationship with higher leaders' families or local parliament members. Companies that did not have win a project confronted local department leaders and project leaders. As a result, in early 2009, the local leader and local parliament members committed to the implementation and use of an e-procurement system to solve the problem.

Subsequently, the regency established an IT team under the control of the Department of Transportation, Communication and Information to manage the implementation and use of the e-procurement system. The regency also established two work units that focused on e-government procurement systems management, operation and use. The first work unit is the LPSE (Electronic Procurement System Service Unit) which is responsible for the e-procurement system implementation, training, and maintenance, as well as providing services to the Procurement Services Unit (ULP) and other stakeholders. The ULP is responsible for the management of the regency's goods and services procurement. The LPSE and ULP operational mechanisms are regulated by the National Agency for Government Goods and Service Procurement (LKPP). The LKPP is a central government institution that manages, monitors, and evaluates the implementation and use of e-government procurement systems within all departments in Indonesian.

Both the LPSE and ULP units work hand in hand in the online procurement process. LPSE provides access to e-government procurement systems including hardware and software while the ULP use the system to manage online goods and services procurement. When the ULP unit tenders a project through an electronic system, they have to cooperate with LPSE as the system manager. Since the implementation of e-government procurement systems and other e-government systems, the regency has been able to significantly reduce collusion, corruption, and improve transparency (KREDIBEL, 2012).

METHODOLOGY

This study selected a case of implementation and use of e-procurement within a regency in Indonesia. A case study research method is well suited to understanding a phenomenon when the boundary between the phenomenon and context are not clearly defined and requires an in-depth study (Yin, 2003)

Primary offline data were gathered through semi-structured interviews, which lasted between 45 and 60 minutes. All transcriptions were sent back to the participants for final confirmation of content and meaning. There were 9 participants from management level and from technical employees' level. Data collection from different levels of an organization hierarchy will contribute to drawing more informed conclusions from this study (Scheepers & Scheepers, 2003). The first field visit was carried out from early March to the end June 2011, and then followed by another three follow-up visits in November 2011, March 2012 and September 2012. Several follow-up contacts were also made to gain more insights. These include emails, phone calls, and online chats. Field notes and memos were made during field visits. Written materials that support the main data were also collected.

Online data were gathered from Facebook social media sites used by local businesses and their staff. We monitored and capture postings, material exchange, and discussions during the period April to end of June 2013. We captured 149 Facebook conversation threads related to e-government procurement implementation and use posted by individuals and groups during the period. We also analysed a company Blog that posted a number of posts related to these issues. The monitoring of companies and staff posting, exchange, and distribution of material and conversations among them was intended to increase our understanding, as suggested by Kietzmann et al., (2011), of the perceptions held by local

businesses about e-government procurement implementation and use. The monitoring was intended to integrate online and offline qualitative data-gathering methods (Sade-Beck & Beer-Sheva, 2004) and to complement our offline interviews carried out earlier. This provided us with the opportunity to verify how far the offline interview results correlate with discussions on social media sites by local businesses and its staff.

Some materials posted by users were downloaded and conversation threads were also copied for data analyses. A thread is a conversation between a single or group of individuals. Since there was a large number of threads, we extracted the threads according to certain topics as suggested by Zimbardo, Fu, & Li (2009). The threads came from different distinct discussions during the monitoring within three months period. Codes were generated from the distinct discussion threads as recommended by Kane & Fichman (2009) which we considered relevant with our topic being sought.

Data analyses broadly followed the method outlined by Strauss and Corbin (1998) in that the data analysis was carried out through iterations; open coding, axial coding and selective coding. We also took into consideration Urquhart et al.'s (2010) data conceptualization strategy in gaining in-depth insight and understanding. The conceptualization process is started from a simple process (description) where the researcher begins initial understanding of the concepts at the level of categories and properties through open coding. Conceptual saturation was reached when no new categories were generated from the open codes and the gaps in emerging concepts were filled (Kendall, 1999).

Offline and online transcripts were in Indonesian and were not translated but analyzed in Indonesian to maintain original meaning and sense. However, the quotes were translated into English when they were used in the paper. We used the parallel translation format (Nikander, 2002, p. 142) in which the data is presented in side-by-side columns when the quotes were translated.

The quotes were transferred into a table and then the codes were translated into English and placed in another column of the table. The translation was verified with the Indonesian quotes and with the context where the codes came from (full transcription texts). This was intended to prevent mis-translation of the quotes as well as preserve meaning and sense. The process of quotes translation is presented in Figure 1.

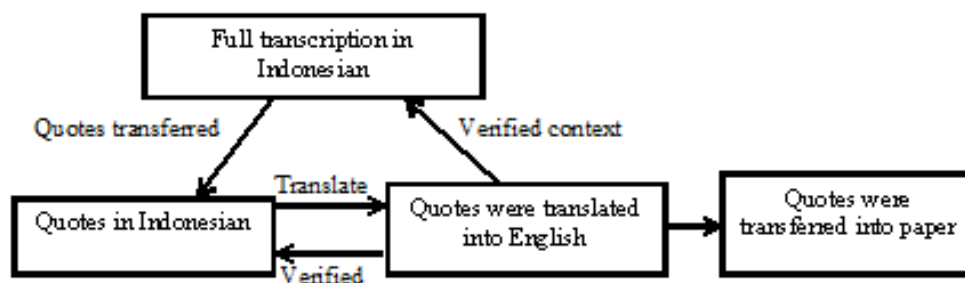


Figure 1. Quotes translation process

FINDINGS

The comparison between the discussions on social media with the interview data from employees of the regency highlighted three themes. Theme 1 highlighted that there is a difference in perception on what constitutes professional actions. Theme 2 highlighted a variation in the perception of the practise of collusion by the regency's employees. Evidence from Theme 3 showed that regency employees provide advice to businesses. Each one of these themes is discussed in more detail.

Theme 1. Differing perceptions on what constitutes professional employees

During offline formal interviews, a number of interviewees said that Auction Committee Services Unit (ULP) and E-procurement System Unit (LPSE) members are professional staff because they were graduates. Employees were recruited from university graduates and were accredited by National Agency for Government Goods and Service Procurement (LKPP). A participant said:

The staff in ULP are the collection of all committee from all departments who have been accredited in goods and services procurement. Meanwhile, staff who operate the system in LPSE have a bachelor's degree in computer science. We assigned ULP staff to four divisions; construction procurement, civil construction, goods procurement, and services procurement according their specialised skills (L1).

The availability of well-educated staff would lead to professional conduct and was intended to eliminate misconduct in all activities to reduce complaint from local contractors. However, our monitoring on business staff's Facebook postings shows that their perception of professionalism differs from those stated by employees. Users expressed their opinion about the lack of professionalism of both LPSE and ULP staff as shown in the following conversations. The users and company name are abbreviated.

WDPK: (a company) posted on 07 June 2012

WDPK: *Project document evaluation was not clear, there was no explanation from the auction committee, do you think committee members are accredited????*

Conversations:

WDPK: *our question is what was our mistake? Why they disqualified us????*

YH: (a user) *Sent your complaints.....slap the committee....*

WDPK: *all not clear....started from auction document submission, evaluation process, and announcement.....all careless*

YH: *all like that...my experience in regency Rokan Hilir was like that too..*

WDPK: *this is very odd Mr YH..as far as we know the leader of the auction committee and members were accredited by LKPP..*

Our monitoring on a company blog also found similar postings where the auction committee has, according to the business employees, acted unprofessionally in a project auction. A company posted on 27 April 2012 in their blog as follows:

"FABRICATION" ANNOUNCEMENT OF PROJECT WINNERS AND EVALUATION RESULTS BY LUWU UTARA AUCTION COMMITTEE"

Things that we consider all funny and lies are included:

- 1. There was an error: "They changed project budget of Budget estimation section. Pipe installation pvc aw 3/4" from 708,02 billion rupiah to 708,20 billion rupiah"*
- 2. there was an error: "The price of a pipe pvc aw 3/4" more than 110% from regulated price which is 25.000,-/meter become 100.000,-" per meter.*
- 3. Our bids and another company in one group (CV. T E) were disqualified without sufficient explanation. They only said our design resemble building development design rather pipes installations design. Why????*

The posting generated 57 responses. It is clear from the offline interviews that the regency management perceive that they have addressed the issue of professionalism by employing university graduates and LKPP accredited staff. However, businesses evaluate the way in which regency staff conduct the auction to evaluate the professionalism of staff. The evaluation of the concept of professionalism from both perspectives leads to a better understanding of the real issues with professionalism.

Theme 2. Collusion may still take place

The use of e-procurement systems has become the means by which the regency ensures transparency, combats corruption, and gains their citizen's trust. The implementation and use of e-procurement is considered to have been successful in building local citizens' and companies' trust in the procurement of goods and service by the regency. A participant from the regency in an offline interview indicated this success as follows:

Combatting corruption is more than arresting corruptors but we need to use systems that prevent government employees from violating the rules. Other than that, our citizens' trust to this government now was at lowest point. Through implementation and use of our e-procurement systems, this government regained our image, which was almost lost. (L1)

Each regency department has a budget, which is spent on a variety of local government projects every year. The realization of those projects requires involvement of local contractors. The main responsibility for the budget expenditure lies with the head of department who forms an auction committee to tender their projects. Previous manual tendering systems were not transparent and the project's auction committee often failed to reveal the auction process. This caused dissatisfaction among some firms as indicated by the following regency participant:

In the past there were many companies unsatisfied with the auction process and then they sent a huge number of complaints and protests to the auction committee because the process was not transparent. Some even came directly to the office and try to attack government staff. This caused high psychological pressures in the committee which influenced their job performance. Then we think, we have to find a solution for this problem...after the implementation and use of the e-government procurement system, the auction committee receive very few complaints from the companies and we can work easier (L3)

Our monitoring on Facebook posting shows that local companies and citizens are still not satisfied with the online auction system. They still suspect the employees practice collusion and corruption in particular when the auction process lacks transparency and has a number of inconsistencies as shown in the following conversation and material posted on 17 June 2012.

A Facebook user WS post on 17 June 2012

WS: *The project tendering announcement is on 15 June 2012 at 15.40pm s/d 23.59pm (There was no announcement until 17 June 2012 up to 21.54 pm).*

*Complaint should be made by 18 June 2012 between 08:00 am to 22 June 2012 16:00pm
Who want to complain___??? No winners have been decided yet my friends___???*

Conversations between Facebook users:

HP: *I cannot imagine ...haaa*

FS: *magic tendering.....*

WS: *Online tendering with manual style.....*

AM: *new regulation.... Online tendering with manual style.....*

GZ: *artificial online tendering.... It just a camouflage to conform to regulation.....*

AD: *There is no guarantee ...there is always a room to negotiate (collusion)...electronic system should be faster and transparent...but the system malfunction always become a reason..(to make collusion)*

KB: *ghost tendering.....change the head of department.....sent him back to his hometown..*

DC: *this all games...I suggest to print on screen so we can use as evidence and make a report..*

The above shows that the online tendering process for a specific project should have been released on 15 June 2012 and bidders could submit their complaints on 18 June 2012. However, until 17 June 2012 at 21.45 pm, the results were not yet released. This means bidders did not have enough time to respond to the announcement. This inconsistency has caused companies to suspect auction members are colluding. This indicates that the regency still does not have the trust of businesses and that they have to be very careful in their actions as the first reaction from businesses would be that something untoward has taken place.

Theme 3. Employees – Businesses Engagement to Improve Knowledge

At the beginning of e-government implementation and use, the regency started educating local businesses to use the e-procurement system. The regency's business knowledge and skills were improved through engagement with LPSE staff. The regency provided a computer room that was utilized by companies to obtain skills related to e-procurement. The regency LPSE assigned staffs to provide assistance to companies when interacting with the system. A participant said in an offline interview as follows:

When we launched the system we knew that most companies and its employees did not understand about online auction system and they did not know how to use it. As a result, we provide a computer room next to this office. There are also two instructors who can help them any time they need. Some companies from other regencies that want to bid on a project in this regency do not know how to use the system such as how to register their companies online. They can come here and the instructors help them to register their companies on the system (L.3)

The regency employees' engagement with business to provide knowledge and skills are continuously practiced. The following conversation show how government employees still engage with companies and staff to inform them on how a company can obtain user name to log in to the system.

RA posted on 31 May 2012 as follows

Is that possible a company put bid in different projects that require different qualifications (goods procurement project and construction project)? The project worth 966 million and 3.7 billion...please opinion and suggestion....

DY: *you can check the company businesses licence to get detail..*

RA : *Mr DY, in my opinion .. a small company is only allowed to bid a project with budget lower than 3 billion and a big company can put a bid on a higher budget project*

IS: *I don't think like that... I think there is regulation number 20 in 2008 that regulate which company can do certain projects. Companies should have certain human resources criteria to do a project....if they are qualified to do construction projects they are eligible for that type projects only.. so check the company licence ...do they have construction licence or goods procurement licence...*

AI: (Employee) *if you look at article 6 verse 2 in the regulation.. it clearly states that what make a company can bid a project depend on their technical competency, human resources, capital, and equipment ..not the size of the project. If a company has the requirement, the committee can not disqualify the company..*

One of a government employees (AI) respond to the posting above to clarify that different project can be bid by a company that has a specific qualification. This interaction was part of business education toward online auctions in the regency. The government employee educated the companies' staff regarding regulation applied in auction and which company can bid for a certain project. The conversation is consistent with our offline interview findings that employees are committed to educating local businesses in using e-procurement system.

DISCUSSION

The results from the offline interviews show differences in perceptions from those expressed on social media websites. For example, from our offline interviews we found that the regency employees in procurement service and e-procurement system management units are highly professional and accredited. The regency interviewees asserted that the professional staff are able to eliminate errors in system use and malpractice in auction processes. This led us to believe that e-procurement auction and the system were managed by professional staff, who are able to manage the system without error and that auctions are practiced transparently. However, the social media postings and conversations indicate that regency employees are not considered professional. Many mistakes were made in managing the system and auction process. The local businesses were not satisfied with the government employees' professionalism as they evaluate the actions of the employees and not just their qualifications.

Similarly, claims were made in offline interviews that the regency has gained business and citizens' trust and that collusions no longer take place in regency auction processes. Instead social media conversation showed that local businesses suspect that collusion is still practiced by the auction committee. The companies' suspicions were based on inconsistency of auction announcements and lack of transparency of auction processes. Companies did not get a clear explanation regarding how the auction committee makes a decision in the system.

In this context, if we take for granted that the social media conversation exchanges are accurate and true then we can conclude that differences in perception exist between the regency employees and users of the e-procurement systems. However, the participants interviewed may not have said the wrong thing but they might be under time pressures in the interview sessions, which reflect that the "interviews [take place in] a very artificial situation" (Myers & Newman, 2007, p. 3). This may lead to a lack of descriptive validity or factual accuracy of a topic being explored (Johnson, 1997), which means what participants say may not take place in the actual context. This support the view that that qualitative interview can be problematic and participants might "create" the phenomena to satisfy the researcher (Vrij, 2006). Interviews may result in weakness such as the Hawthorne effect where participants are aware of being observed and interviewed for research purposes (De Amici, Klersy,

Ramajoli, Brustia, & Politi, 2000) that may produce what is expected by the researchers whom the participants try to please.

On the other hand, our findings also show consistency between offline interview and social media monitoring. For example, a participant in offline interview said that staff who manage the e-procurement system consistently educated company staff to provide skills and knowledge in e-procurement system. The finding is consistent with our social media monitor where government employees responded to company staff enquiries. The government employees provided companies staff with knowledge. This implies that social media can be also a source of rich data (Greene et al., 2010) that can be used to strengthen or to validate our understanding of a topic being studied.

CONCLUSION AND FUTURE RESEARCH

We have shown how social media can be used as qualitative, rich data sources to strengthen or allow us to question our understanding of a topic being studied. Regardless of whether our findings did or did not match between the offline interviews and online monitoring, our findings provide new insight on how social media can be used in qualitative research. Our findings of social media monitoring can be used as an alternative method in qualitative study or as complement to offline interviews (Sade-Beck & Beer-Sheva, 2004) to gather rich qualitative data. Even though in offline interviews, the participants were given freedom to express their ideas and feelings regarding issues raised by the interviewer to “allow respondents to tell their own story in their own terms” (McCracken, 1988, p. 34), we suspect that participants will express their ideas more freely in an online arena. This may result in more validity and trustworthy data. However, this may be complicated by animosity of participants that can reduce the trustworthiness.

This study has raised some issues that will need to be addressed in further research. Use of social media for qualitative data gathering raises an ethical dilemma because we observe and draw content from posted material in an online setting without users’ consent. The users were also anonymous as some of them did not use real names. This may make research lack validity and reliability of data collected, and sampling may not represent the characteristics required for the study (Walther, 2002). We also acknowledge the challenges of using social media for qualitative data gathering because communication in a social media context involves a variety of data such as visual, verbal, and text-based. This requires us to decide which data should be used and how to analyse them. This also may breach copyright of the author or the users who post the material. Future research should address issues such as how to deal with consent and copyright when researchers use social media to gather data.

REFERENCES

- Agichtein, E., Castillo, C., Donato, D., Gionis, A., & Mishne, G. (2008). Finding High-Quality Content in Social Media. *Proceedings of the ACM 2008, California USA*.
- Bertot, J. C., Jaeger, P. T., & Grimes, J. M. (2010). Using ICTs to create a culture of transparency: E-government and social media as openness and anti-corruption tools for societies. *Government Information Quarterly*, 27, 264-271.
- Bertot, J. C., Jaeger, P. T., Munson, S., & Glaisyer, T. (2010). Social Media Technology and Government Transparency. *Computer*, 43(11), 53-59.
- Bianco, M. B., & Carr-Chellman, A. A. (2000). *Exploring Qualitative Methodologies in Online Learning Environments*. Paper presented at the National Convention of the Association for Educational Communications and Technology (23rd, Denver, CO, October 25-28, 2000), Denver.
- Bonsón, E., Torres, L., Royo, S., & Flores, F. (2012). Local e-government 2.0: Social media and corporate transparency in municipalities. *Government Information Quarterly*, 29(2), 123-132. doi: <http://dx.doi.org/10.1016/j.giq.2011.10.001>
- Campbell, C. S., Maglio, P. P., Cozzi, A., & Dom, B. (2003). *Expertise identification using email communications*. Paper presented at the Proceedings of the twelfth international conference on Information and knowledge management, New Orleans, LA, USA.
- Cantrell, M. A., & Lupinacci, P. (2007). Methodological issues in online data collection. *Journal of Advanced Nursing*, 60(5), 544-549. doi: 10.1111/j.1365-2648.2007.04448.x
- Cisar, O. (2003). Strategies for Using Information Technologies for Curbing Public-Sector Corruption: The Case of the Czech Republic. Retrieved 01 August 2011 <http://pdc.ceu.hu/archive/00001820/01/Cisar.pdf>
- Crabtree, A., Nichols, D. M., O'Brien, J., Rouncefield, M., & Twidale, M. B. (2000). Ethnomethodologically informed ethnography and information system design. *Journal of the*

- American Society for Information Science*, 51(7), 666-682. doi: 10.1002/(SICI)1097-4571(2000)51:7<666::AID-ASI8>3.0.CO;2-5
- De Amici, D., Klersy, C., Ramajoli, F., Brustia, L., & Politi, P. (2000). Impact of the Hawthorne Effect in a Longitudinal Clinical Study: The Case of Anesthesia. *Controlled Clinical Trials*, 21(2), 103-114. doi: [http://dx.doi.org/10.1016/S0197-2456\(99\)00054-9](http://dx.doi.org/10.1016/S0197-2456(99)00054-9)
- DiCicco-Bloom, B. B. F. (2006). The qualitative research interview. *Medical Education*, 40(4), 314-321. doi: 10.1111/j.1365-2929.2006.02418.x
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The Benefits of Facebook "Friends": Social Capital and College Students' Use of Online Social Network Sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168. doi: 10.1111/j.1083-6101.2007.00367.x
- Frey, J. H., & Fontana, A. (1991). The group interview in social research. *The Social Science Journal*, 28(2), 175-187. doi: [http://dx.doi.org/10.1016/0362-3319\(91\)90003-M](http://dx.doi.org/10.1016/0362-3319(91)90003-M)
- Greene, J. A., Choudhry, N. K., Kilabuk, E., & Shrank, W. H. (2010). Online Social Networking by Patients with Diabetes: A Qualitative Evaluation of Communication with Facebook. *Journal General Internal Medicine*, 26(3), 287-292.
- Hawking, P., Stein, A., Wyld, D. C., & Susan Foster. (2004). E-procurement: is the Ugly Duckling Actually a Swan Down Under? *Asia Pacific Journal of Marketing and Logistics*, 16(1), 3-26.
- Hong, S., & Nadler, D. (2012). Which candidates do the public discuss online in an election campaign?: The use of social media by 2012 presidential candidates and its impact on candidate salience. *Government Information Quarterly*, 29(4), 455-461. doi: <http://dx.doi.org/10.1016/j.giq.2012.06.004>
- Hookway, N. (2008). Entering the blogosphere': some strategies for using blogs in social research. *Qualitative Research*, 8(1), 91-113.
- Johnson, R. B. (1997). Examining the Validity Struture of Qualitative Research. *Education*, 118(2), 282-292.
- Kane, G. C., & Fichman, R. G. (2009). The Shoemaker's Children: Using Wikis For Information Systems Teaching, Research, and Publication. *MIS Quarterly*, 33, 1-17.
- Kaplan, A. M., & Haenlein, M. (2010). Users of the World, Unite! The Challenges and Opportunities of Social Media. *Business Horizons*, 53(1), 59 - 68.
- Kendall, J. (1999). Axial Coding and the Grounded Theory Controversy. *Western Journal of Nursing Research*, 21(6), 743-757. doi: 10.1177/019394599902100603
- Kietzmann, J. H., Hermkens, K., McCarthy, I. P., & Silvestre, B. S. (2011). Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*, 54(3), 241-251. doi: <http://dx.doi.org/10.1016/j.bushor.2011.01.005>
- Kishor Vaidya, A. S. M. S., & Callender, G. (2006). Critical Factors that influence E-Procurement Implementation Success in the Public Sector *Journal of Public Procurement*, 6(1&3), 70-99.
- KREDIBEL. (2012). Kabupaten Luwu Utara, Sulawesi Selatan, Inspirasi Pengadaan dari Timur. Retrieved 15 January 2013, from LKPP http://www.lkpp.go.id/v2/files/content/file/KREDIBEL_EDISI_2_JAN-APR-2012.pdf
- LeCompte, M. D., & Schensul, J. J. (1999). *Designing and Conducting Ethnographic Research*. Plymouth, UK: Altamira Press.
- Lefever, S., Dal, M., & Matthiasdóttir, Á. (2007). Online data collection in academic research: advantages and limitations. *British Journal of Educational Technology*, 38(4), 574-582. doi: 10.1111/j.1467-8535.2006.00638.x
- Mahmood, S. A. I. (2010). Public Procurement and Corruption in Bangladesh Confronting the Challenges and Opportunities. *Journal of Public Administration and Policy Research*, 2(6), 103-111.
- Majchrzak, A. (2009). Comment: Where is the Theory in Wikis? *MIS Quarterly*, 33(1), 18-20.
- Mangold, W. G., & Faulds, D. J. (2009). Social media: The new hybrid element of the promotion mix. *Business Horizons*, 52(4), 357-365. doi: 10.1016/j.bushor.2009.03.002
- Mansouri-Samani, M., & Sloman, M. (1993). Monitoring distributed systems. *Network, IEEE*, 7(6), 20-30. doi: 10.1109/65.244791
- McConnell, D. J., Doherty, N. F., & Ellis-chadwick, F. (2010, 19-21 May 2010). *Exploring the uptake and application of electronic procurement to central and local government*. Paper presented at the Research Challenges in Information Science (RCIS), 2010 Fourth International Conference on.
- McCoyd, J. L. M., & Kerson, T. S. (2006). Conducting Intensive Interviews Using Email: A Serendipitous Comparative Opportunity. *Qualitative Social Work*, 5(3), 389-406. doi: 10.1177/1473325006067367
- McCracken, G. (1988). *The Long Interview*. Newbury Park, California: SAGE Publication, Inc.

- Moon, M. J. (2005). E-Procurement Management in State Governments: Diffusion of E-Procurement Practices and Its Development *Journal of Public Procurement*, 5(1), 54-72.
- Morgan, D. L. (1997). *Focus Groups as Qualitative Research*. London: SAGE Publication, Inc.
- Myers, M. D., & Newman, M. (2007). The qualitative interview in IS research: Examining the craft. *Information and Organization*, 17(1), 2-26. doi: 10.1016/j.infoandorg.2006.11.001
- Nikander, P. (2002). *Age in action: Membership work and stage of life categories in talk* (Vol. 321): Academia Scientiarum Fennica.
- O'Reilly, T. (2007). What is Web 2.0: Design Patterns and Business Models for the Next Generation of Software. Retrieved 04 January 2011
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1008839&download=yes%22
- Parent, M., Gallupe, R. B., Salisbury, W. D., & Handelman, J. M. (2000). Knowledge creation in focus groups: can group technologies help? *Information & Management*, 38(1), 47-58. doi: [http://dx.doi.org/10.1016/S0378-7206\(00\)00053-7](http://dx.doi.org/10.1016/S0378-7206(00)00053-7)
- Sade-Beck, L., & Beer-Sheva. (2004). Internet Ethnography: Online and Offline. *International Journal of Qualitative Methods*, 3(2), 45-51.
- Scheepers, R., & Scheepers, H. (2003). Contexts of Relevance in Explanatory Case Studies in Information Systems: Ubiquitous Information Technology Implementation in Organizations. *ICIS 2003 Proceedings. Paper 3*.
- Shah, A., & Schacter, M. (2004). Combating Corruption: Look Before You Leap. Retrieved 31 July 2012
http://www.12iacc.org/archivos/WS_6.2_CLIFF_ANWAR_SHAH_AND_MARK_SCHACTER.PDF
- Smith, P. R., & Zook, Z. (2011). *Marketing Communications: Integrating Offline and Online with Social Media* (5 ed.). London: Kogan Page Limited.
- Sobkowicz, P., Kaschesky, M., & Bouchard, G. (2012). Opinion mining in social media: Modeling, simulating, and forecasting political opinions in the web. *Government Information Quarterly*, 29(4), 470-479. doi: <http://dx.doi.org/10.1016/j.giq.2012.06.005>
- Sproull, L. S. (1986). Using Electronic Mail for Data Collection in Organizational Research *Academy of Management Journal*, 29(1), 159-169. doi: 10.2307/255867
- Stockdale, R., Ahmed, A., & Scheepers, H. (2011). Identifying Business Values from the Use of Social Media: An SME Perspective. Retrieved 25 September 2012
http://pacific2012.org/files/papers/pacific2012_T23_Stockdale_203.pdf
- Strano, M. M. (2008). User Descriptions and Interpretations of Self-Presentation through Facebook Profile Images. *Journal of Psychosocial Research on Cyberspace*, 2(2).
- Strauss, A., & Corbin, J. M. (1998). *Basics of Qualitative Research: Grounded Theory Procedures and Techniques* (2 ed.). California, USA: Sage Publications, Inc.
- Sutton, J., Palen, L., & Shklovski, I. (2008). *Backchannels on the Front Lines: Emergent Uses of Social Media in the 2007 Southern California Wildfires*. Paper presented at the Proceedings of the 5th International ISCRAM Conference – Washington, DC, USA, May 2008, Washington, DC.
- Thelwall, M. (2008). Social networks, gender, and friending: An analysis of MySpace member profiles. *Journal of The American Society For Information Science and Technology*, 59(8), 1321-1330. doi: 10.1002/asi.20835
- Urquhart, C., Lehmann, H., & Myers, M. D. (2010). Putting the 'theory' back into grounded theory: guidelines for grounded theory studies in information systems. *Information Systems Journal*, 20(4), 357-381. doi: 10.1111/j.1365-2575.2009.00328.x
- Vrij, A. (2006). Challenging interviewees during interviews: The potential effects on lie detection. *Psychology, Crime & Law*, 12(2), 193-206. doi: 10.1080/10683160512331331319
- Walther, J. (2002). Research ethics in Internet-enabled research: Human subjects issues and methodological myopia. *Ethics and Information Technology*, 4(3), 205-216. doi: 10.1023/A:1021368426115
- Wood, R. T. A., Griffiths, M. D., & Eatough, V. (2004). Online Data Collection from Video Game Players: Methodological Issues. *CYBERPSYCHOLOGY & BEHAVIOR*, 7(5), 511-518.
- Wright, K. B. (2005). Researching Internet-Based Populations: Advantages and Disadvantages of Online Survey Research, Online Questionnaire Authoring Software Packages, and Web Survey Services. *Journal of Computer-Mediated Communication*, 10(3), 00-00. doi: 10.1111/j.1083-6101.2005.tb00259.x
- Yin, R. K. (2003). *Case Study Research - Design and Method*.
- Zimbra, D., Fu, T., & Li, X. (2009). Assessing Public Opinion Through Web 2.0: A Case Study on Wal-Mart. *International Conference on Information Systems (ICIS) 2009 Proceedings*.

COPYRIGHT

Nuridin Nuridin, Rosemary Stockdale, and Helana Scheepers © 2013. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors